Paper No. 12

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DANIEL J. BATDORF

Appeal No. 1997-0998
Application 08/251,494[1]

ON BRIEF

Before OWENS, WALTZ and SPIEGEL, Administrative Patent Judges.

WALTZ, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the examiner's refusal to allow claims 1 through 5, 9, 13 through 15 and 22[2] as amended subsequent to the final rejection (see

[1] Application for patent filed May 31, 1994.

[2] As noted in the Answer, pages 2 and 3, claim 23 as presented by appellant in the amendment dated Jan. 11, 1996, Paper No. 4, has been renumbered as claim 22 since the claims as originally filed contained no claim 18.

the amendment dated June 24, 1996, Paper No. 6, entered as per the Advisory Action dated July 3, 1996, Paper No. 7).

According to appellant, the invention is directed to a method of cutting a fibrous work piece by means of a focused, high energy liquid jet that contains a sealant and employs a high pressure air stream to compress the fibrous work piece (Brief, pages 2-3). Claim 1 is illustrative of the subject matter on appeal and a copy of claim 1 is attached as an Appendix to this decision.

The examiner relies upon the following references as evidence of obviousness:

Franz	3,524,367	Aug. 18, 1970
Gerber	3,877,334	Apr. 15, 1975
Mercer et al. (Mercer)	4,435,902	Mar. 13, 1984

Claims 1-5, 9, 13-15 and 22 stand rejected under 35 U.S.C.

§ 103 as unpatentable over Franz in view of Mercer and Gerber (Answer, page 3).[3] We *reverse* this rejection for reasons which follow.

OPINION

The method of claim 1 on appeal recites "introducing and mixing a sealant into a liquid prior to said liquid exiting a nozzle as a focused, high energy liquid jet" and "sealing an edge of a kerf ... with said sealant ... to encapsulate dust and short length fibers formed by said cutting of said fibrous work piece."

The examiner states that "Franz discloses a high energy liquid jet cutting device wherein the liquid jet is water combined with a long chain polymer such as methyl cellulose which is widely used as an adhesive." (Answer, page 3).

[3] The rejected claims are incorrectly listed on page 3 of the Answer as claims 1-6 and 11-15. Since the examiner lists the correct claims on page 2 of the Answer and appellant has responded to the rejection including the correct claims (except that claim 23 has been renumbered as claim 22, see the Brief, page 3), we hold this error to be harmless. Therefore we consider claims 1-5, 9, 13-15 and 22 as the claims on appeal and included in the sole rejection. We must also note the examiner's statement on page 2 of the Answer that "appellant has failed to include as an issue the outstanding double patenting rejection." On the record before us, we find no double patenting rejection has ever been made in this application. Upon return of this application to the jurisdiction of the examiner, this matter should be clarified on the record.

However, the examiner has failed to establish, on this record, that methyl cellulose is a well known adhesive and that, as an adhesive, it would have functioned as a sealant as required by claim 1 on appeal. The examiner has not shown that the other "long chain polymers" of Franz are known adhesives or sealants, i.e., why would one of ordinary skill in the art have selected an adhesive such as methyl cellulose as the "long chain polymer."

The examiner fails to state any conclusion regarding the obviousness of adding a sealant to the water of the liquid jet (Answer, page 4). However, in the examiner's response to appellant's arguments on page 5 of the Answer, the examiner states:

> [I]t is notorious that materials cut by high velocity liquid jets retain some of the liquid at the cut edges. Franz states that such wetting occurs using his liquid jet cutting device although the undesirable effects therefrom are reduced (column 5, lines 5-7). Because Franz' liquid jet is a mixture of water and a long chain polymer it is *inherent* that the wet edges will include the polymer together with the water. As a result [the] liquid jet will have *some* sealing effect on the wetted edges. (Emphasis added).

The examiner's analysis is in error for two reasons. First, the examiner has not provided evidence or convincing reasons why the "long chain polymer" of Franz would have acted or functioned as a sealant. Second, the examiner has not shown, by evidence or convincing reasons, that any amount of water and "long chain polymer" inherently included on the wet edges of the cut in Franz would have had a sealing effect such as "to encapsulate dust and short length fibers" as required by claim 1 on appeal, not just "*some* sealing effect" as stated by the examiner (Answer, page 5, emphasis added).

Mercer was applied by the examiner to show that high velocity liquid jet cutters have been used to cut fiberglass resins (Answer, page 3). Gerber has been applied by the examiner to show the conventional use of compressed air streams to compress and harden limp material to enable a high velocity cutting jet to produce a sharper and more accurate cut (Answer, page 4). Neither reference remedies the deficiencies of the Franz reference and the examiner's reasoning as discussed above.

For the foregoing reasons, we determine that the examiner has not met the initial burden of establishing a *prima facie*

case of obviousness from the reference evidence. Accordingly, the rejection of claims 1-5, 9, 13-15 and 22 under § 103 over Franz in view of Mercer and Gerber is reversed. *In re Oetiker,* 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

The decision of the examiner is reversed.

REVERSED

TERRY J. OWENS Administrative Patent Judge	)
THOMAS A. WALTZ Administrative Patent Judge	) BOARD OF PATENT) APPEALS AND) INTERFERENCES
CAROL A. SPIEGEL Administrative Patent Judge	)

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APPENDIX

1. A method of simultaneously cutting and sealing a fibrous work piece comprising:

providing a fibrous work piece;

introducing and mixing a sealant into a liquid prior to said liquid exiting a nozzle as a focused, high energy liquid jet;

cutting said fibrous work piece by directing said focused, high energy liquid jet from said nozzle onto a surface of said fibrous work piece;

sealing an edge of a kerf formed by said cutting of said fibrous work piece with said sealant carried in said focused, high energy liquid jet to encapsulate dust and short length fibers formed by said cutting of said fibrous work piece; and

placing portions of said fibrous work piece in compression adjacent where said focused, high energy liquid jet is cutting said fibrous work piece by directing at least one stream of high pressure air onto the surface of said fibrous work piece adjacent where said focused, high energy liquid jet is cutting said fibrous work piece to facilitate the formation of a clean edge on said kerf.